

# ECONOMIC DECISION FACTORS IN SITE SELECTION FOR OFFSHORE RENEWABLE ENERGY PROJECTS

M. SILVA, J. CÂNDIDO, I. MACHADO

#### **OUTLINE**

- Introduction
- Multi-criteria analysis
- Economic assessment of offshore renewables
- Site selection using economic criteria
- Conclusions

#### INTRODUCTION

- Site Selection of offshore renewable energy projects is a fundamental aspect of its development
- It is dependent on the requisites of ORE projects, but also on the existing activities in the area that may impact its operation or invalidate its construction.
  - Wide range of stakeholders will be affected and will have different objectives: complex decision-making process
  - Project developers objectives are driven by economic factors
- Multi-criteria analysis (MCA) is an often used valuable technique in site selection, weighting energy resource and technical and non-technical constraints

#### **MULTI-CRITERIA ANALYSIS**

- It is technique used to aid in the decision making process by ranking and/or selecting a set of different options according to different parameters in order to achieve an objective, or a set of objectives.
- Objectives may be conflicting among themselves, or represent a trade-off system.

#### **MULTI-CRITERIA ANALYSIS**

- The decision process using MCA can be summarized in the following steps:
  - Identification of the problem to be solved
  - Identification the factors that affect the possible solutions
  - Definition of the set of possible options for each factor and determination of the resulting criteria to be used to compare the options.
  - Analysis of the choices

## ECONOMIC ASSESSMENT OF OFFSHORE RENEWABLES



### SITE SELECTION USING ECONOMIC CRITERIA



### **CONCLUSIONS**









11



#### **CONTACTOS**

Rua D. Jerónimo Osório, n.º 11, 1º andar 1400 – 119 Lisboa, Portugal

> Tel.: +351 218 482 655 Fax: +351 218 481 630

> > www.wavec.org